PCN97

ECONOMIC EVALUATION OF PROPHYLACTIC PEGFILGRASTIM AND FILGRASTIM IN PATIENTS WITH MYELOABLATIVE CHEMOTHERAPY TO AVOID NEUTROPENIA IN THE IMSS (MEXICAN INSTITUTE OF SOCIAL SECURITY)

Nambo-Lucio M

CMN Siglo XXI, Mexico City, Mexico, Mexico

OBJECTIVES: To assess whether prophylactic use of pegfilgastrim offers better results in terms of health and expense associated with the incidence of febrile neutropenia (FN) associated with myelosuppressive chemotherapy compared to filgrastim in the IMSS **METHODS:** The measure of effectiveness was considered by the incidence of NF in patients receiving myeloablative chemotherapy (Qt) and received prophylaxis. According to literature, the prophylactic use of pegfilgrastim reduced by 90% the incidence of FN and the prophylactic use of filgrastim reduces by 39%. We constructed a decision tree, which considered the costs of treatment and complications, including, costs of drugs, consultations, laboratory studies, hospitalization and procedures. The incidence of FN is 20% when is used Qt. **RESULTS:** If used as a prophylactic filgrastim, average cost of prophylactic treatment over the complications of FN would be US$1982. However, if used as prophylactic pegfilgrastim, based on their efficiency, the cost would be US$1421. If we use as a prophylactic pegfilgrastim we will have savings of 28% compared with using filgrastim. Following the trend of consumption of filgrastim in IMSS published by the Federal Institute of Access to Public Information (IFAI) and assuming that 30% of this consumption was used for prophylaxis for patients who received Qt, then we can estimate that the number of prophylaxis given was about 15,000 cycles in 2009. This represents average savings of treatment (including complications of NF) of 10 million USD, however if they had been treated with pegfilgrastim savings had been for 18 million USD or 8 million USD more savings (+86%) that using filgrastim as prophylaxis. **CONCLUSIONS:** The prophylactic use of pegfilgatrim reduces costs of care for cancer patients that are in Qt in the IMSS and provides a benefit to patients.

PCN98

ESTIMATING THE POTENTIAL COST-EFFECTIVENESS OF HUMAN PAPILLOMAVIRUS (HPV) VACCINATION IN GERMANY USING A DYNAMIC TRANSMISSION MODEL

Damm O[1], Horn J[2], Kretzschmar M[3], Deleré Y[4], Kaufmann AM[5], Wichmann O[4], Krämer A[1], Greiner W[1], Mikolajczyk R[2]

[1]*School of Public Health, University of Bielefeld, Bielefeld, Germany,* [2]*Bremen Institute for Prevention Research and Social Medicine, Bremen, Germany,* [3]*University Medical Centre Utrecht, Utrecht, The Netherlands,* [4]*Robert Koch Institute, Berlin, Germany,* [5]*Charite-Universitaetsmedizin Berlin, Berlin, Germany*

OBJECTIVES: In clinical studies, prophylactic HPV vaccines have demonstrated high efficacy in the prevention of HPV infections, cervical intraepithelial neoplasia (CIN) and genital warts. In Germany, routine HPV vaccination is recommended for females aged 12 to 17 years. No transmission model reflecting the German healthcare setting which evaluates the cost-effectiveness of both the bivalent and quadrivalent HPV vaccines has been published yet. Hence, the objective of this study was to determine the long-term impact of both available vaccines in addition to the existing cervical cancer screening programme in Germany. **METHODS:** A mathematical model simulating the transmission dynamics and the natural history of HPV infection was developed. The age-structured model takes account of the occurrence of CIN, cervical cancer and genital warts and was calibrated using German data on HPV prevalence and cancer statistics. Epidemiological and economic parameter estimates were obtained from published literature and supplemented by expert interviews. The base-case analysis was conducted from a third-party payer perspective and assumed a vaccination coverage of 50%, 10 years of sustained vaccine protection followed by a period of waning immunity, costs of €474 for the initial immunisation series and a 3% discount rate on future costs and health effects. **RESULTS:** Compared with current screening practice, vaccination of 12-year-old girls prevented additional 97,822 cervical cancer cases and 23,462 deaths over a time horizon of 100 years. Under base-case assumptions, the discounted ICERs were €57,413 per life-year gained and €37,198 per QALY gained for the bivalent vaccine, and €36,700 per life-year gained and €15,229 per QALY gained for the quadrivalent vaccine. **CONCLUSIONS:** Considering the commonly accepted threshold of €50,000 per QALY gained, routine HPV-vaccination of 12-year-old girls is likely to be cost-effective in Germany. Additional protection against genital warts in females and males by the quadrivalent vaccine improves the cost-effectiveness ratio substantially.

PCN99

COST-EFFECTIVENESS OF DASATINIB VERSUS HIGH-DOSE IMATINIB AND NILOTINIB IN PATIENTS WITH CHRONIC MYELOID LEUKAEMIA RESISTANT TO STANDARD-DOSE IMATINIB IN PORTUGAL

Darba J[1], Kaskens L[2], Abecasis M[3], Vitorino R[4], Carrasco J[5]

[1]*Universitat de Barcelona, Barcelona, Spain,* [2]*BCN Health, Barcelona, Spain,* [3]*Inst Portogues Oncologica, Lisboa, Portugal,* [4]*Bristol-Myers Squibb, Paço de Arcos , Portugal,* [5]*Bristol-Myers Squibb, Paço de Arcos, Portugal*

OBJECTIVES: To assess the cost-effectiveness of dasatinib 100 mg/day vs. imatinib 600 mg/day, imatinib 800 mg/day and versus nilotinib 800 mg/day in patients with chronic myeloid leukaemia (CML) in the chronic phase of the disease, resistant to prior therapy with imatinib 400 mg/day from the perspective of the Portuguese National Health Service (NHS). **METHODS:** A cost-utility Markov model was developed by BMS for NICE appraisal and has been adapted to the Portuguese treatment practice. Four health states were considered, three represented CML phases (chronic, accelerate and blast) and the death state with one-month cycles. The model was populated with efficacy data from clinical trials, resource utilization by expert opinion, published quality of life data for CML laypersons in the UK and unit prices from official 2010 price lists. A life-long, NHS perspective was used and deterministic results were determined. A deterministic sensitivity analysis was performed to test the robustness of the results. **RESULTS:** The results showed that chronic phase CML patients resistant to standard dose imatinib gain on average 2.72 life-years, or 2.38 quality adjusted life-years, when treated with dasatinib 100 mg/day compared with imatinib 600 mg/day or compared to imatinib 800 mg/day and on average 0.53 life-years, or 0.47 quality adjusted life-years compared to nilotinib 800 mg/day. The incremental cost per quality adjusted life year gained (QALY) amounts to €39,941 when dasatinib 100 mg/day is compared with imatinib 600 mg/day, and to €14,470 when compared to imatinib 800 mg/day and to €29,422 when compared to nilotinib during a lifetime period. **CONCLUSIONS:** The results indicate that dasatinib is a cost-effective option in CML patients resistant to standard-dose imatinib in Portugal in comparison with high-dose imatinib and nilotinib.

PCN100

A COST–UTILITY ANALYSIS OF DEGARELIX IN THE TREATMENT OF ADVANCED HORMONE-DEPENDENT PROSTATE CANCER IN SCOTLAND

Fisher D[1], Brereton NJ[1], Kildegaard nielsen S[2], Tate E[3]

[1]*BresMed Health Solutions, Sheffield, South Yorkshire, UK,* [2]*Ferring International Center S.A., St. Prex, Switzerland,* [3]*Hayward Medical Communications, Newmarket, Suffolk, UK*

OBJECTIVES: Degarelix is the first gonadotrophin-releasing hormone (GnRH) antagonist to be launched in the UK for first-line treatment of advanced prostate cancer. The aim of this evaluation was to predict long-term clinical and economic outcomes from treatment with degarelix compared to treatment with goserelin, standard current practice, from the perspective of NHS Scotland. **METHODS:** Analyses were conducted using a 20 year semi-Markov (cohort health-state transition) cost-utility model which was recently submitted to and accepted by the Scottish Medical Consortium (SMC). The model considers two patient groups – the intention-to-treat population (ITT) of patients with hormone-responsive prostate cancer in whom treatment with androgen-deprivation therapy is indicated and who would be prescribed a LHRH agonist and a high-risk population with a baseline PSA level >20ng/ml. Probabilistic and deterministic sensitivity analyses were conducted to assess uncertainty in the model. **RESULTS:** The key benefit of treatment with degarelix comes from keeping patients in the first-line treatment state for longer, incurring less time and costs in the later more costly and lower utility non-hormonal therapy state. At NHS list-price degarelix is estimated to dominate treatment with goserelin within both populations with a saving of £271 and QALY gain of 0.46 in the ITT population. Probabilistic sensitivity analyses show that degarelix is likely to be cost-effective (at a willingness-to-pay of £500 per QALY) in 100% of cases. **CONCLUSIONS:** The economic analysis shows that degarelix not only provides a better patient outcome but is also less costly than goserelin over a lifetime of treatment. It is rare for a new treatment to predict dominance over existing therapies – only 18% of SMC submissions up to 2011 have predicted dominance. In addition degarelix shows a large gain in quality of life (almost half a year in full health) even when a conservative assumption of no increase in survival is applied.

PCN101

A COST-EFFECTIVENESS ANALYSIS FOR SECOND-LINE TREATMENT OF RELAPSED/REFRACTORY (RR) MULTIPLE MYELOMA (MM) IN THE UNITED KINGDOM

Jiang Y[1], Spencer M[2], Gauthier A[1], Pacou M[1]

[1]*Amaris Consulting UK, London, UK,* [2]*Janssen-Cilag Ltd, High Wycombe, UK*

OBJECTIVES: MM is the second most common haematological malignancy. With the recent introduction of new agents, survival has greatly improved. This study aimed to assess the cost-effectiveness of bortezomib (BOR) vs. dexamethasone (DEX) as second-line treatment of RRMM. Lenalidomide in combination with dexamethasone (LEN+DEX) was also considered in a secondary analysis. **METHODS:** An area under the curve decision-analytic model was developed, containing three health states: "pre-progression", "post-progression" and "dead". Survival analyses of the APEX trial (BOR vs. DEX) were used to estimate the transition probabilities by line of treatment. As 71% of patients randomised to DEX crossed over to BOR, the hazard ratios (HR) were adjusted for crossovers (progression-free survival [PFS]: 0.56; overall survival [OS]: 0.59). HRs for LEN+DEX vs. DEX (PFS: 0.35; OS: 0.71) were retrieved from the MM-09/10 trials (not adjusted for 47.6% cross-over or line of treatment). Treatment schedule, compliance rate and adverse events (AEs) rates were retrieved from the above clinical trials, while utility weights were retrieved from the published literature. The model runs over patients' lifetime, and discount rate of 3.5% was applied to costs and QALYs and assumptions around level of vial sharing for bortezomib were investigated. **RESULTS:** BOR was associated with an incremental effectiveness of 1.56 life years gained (LYG) and 0.86 QALYs per patient compared to DEX, while LEN+DEX was found to be less effective (-0.64 LYG, -0.28 QALYs) than BOR. Scenario analyses showed BOR is cost-effective in most cases when compared to DEX, while LEN+DEX was dominated by BOR. The results were sensitive to treatment effect on survival. **CONCLUSIONS:** The model suggests that BOR is a cost-effective option for treating RRMM in the UK.

PCN102

ECONOMIC EVALUATION OF THREE FORMULATIONS OF LEUPROLIDE ACETATE WITH ATRIGEL® IN ANDROGEN DEPRIVATION THERAPY FOR ADVANCED PROSTATE CANCER IN NINE EUROPEAN COUNTRIES

Retsa P[1], Sidhu M[1], Odeyemi I[1], Tombal B[2], Wex J[3]

[1]*Astellas Pharma Europe, Staines, UK,* [2]*Cliniques Universitaires Saint-Luc, Brussel, Belgium,* [3]*PharmArchitecture Limited, London, UK*